WHAT IS CLAIMED IS:

1. A system configured to determine a dimension of a structure on a specimen, comprising:

a partial oblique illumination system configured to project a knife edge terminator on the specimen;

an imaging system configured to image the structure as the structure passes across the knife edge terminator and to integrate an intensity of the images of the structure; and

a processor coupled to the imaging system, wherein the processor is configured to determine a height of the structure from the integrated intensity.

2. The system of claim 1, wherein the processor is further configured to determine a height of a surface of the specimen from the integrated intensity.

3. The system of claim 1, wherein the integrated intensity is proportional or inversely proportional to the height of the structure.

4. The system of claim 1, wherein the partial oblique illumination system comprises an objective lens configured to image the knife edge terminator on the specimen, and wherein the objective lens has a numerical aperture selected such that an angle at which the knife edge terminator is projected onto the specimen is substantially constant.

5. The system of claim 1, wherein the imaging system is further configured to image the structure as the structure passes across an additional knife edge terminator projected onto the specimen at an azimuthal or polar angle different than an azimuthal or polar angle at which the knife edge terminator is projected on the specimen.

6. The system of claim 5, wherein the imaging system comprises a measurement time delay integration sensor configured to image the structure as it passes across the knife edge terminator and a reference time delay integration sensor configured to image the structure as it passes across the additional knife edge terminator.

7. The system of claim 5, wherein the additional knife edge terminator is inverted with respect to the knife edge terminator.

8. The system of claim 1, wherein the imaging system is further configured to image the structure as the structure passes across an additional knife edge terminator projected onto the specimen at an azimuthal angle opposite that at which the knife edge terminator is projected on the specimen.

9. The system of claim 8, wherein the additional knife edge terminator is inverted with respect to the knife edge terminator.

10. The system of claim 8, wherein the additional knife edge terminator is non-inverted with respect to the knife edge terminator.

11. The system of claim 1, wherein the imaging system comprises a time delay integration sensor configured to image the structure and to integrate the intensity.

12. The system of claim 1, wherein the imaging system comprises a time delay integration sensor configured to image the structure and to integrate the intensity, and wherein the sensor is operated at a speed greater than a speed of a stage on which the specimen is supported during imaging such that the images are smeared.

13. The system of claim 1, wherein the imaging system comprises a time delay integration sensor configured to image the structure and to integrate the intensity, and wherein the sensor has an asymmetric pixel size such that pixels of the sensor have a dimension in a scan direction that is smaller than a dimension of the pixels in a direction opposite to the scan direction.

14. The system of claim 1, wherein the imaging system comprises a time delay integration sensor configured to image the structure and to integrate the intensity, and wherein anamorphic optics are coupled to the sensor such that the image is magnified in a scan direction.

15. The system of claim 1, wherein the imaging system is further configured to form a reference image of the structure in full oblique illumination and to integrate an intensity of the reference image, and wherein the processor is further configured to reduce albedo differences between the structure and additional structures on the specimen using the reference image.

16. The system of claim 1, wherein the imaging system is further configured to form a reference image of the structure in full oblique illumination and to integrate an intensity of the reference image, and wherein the processor is further configured to determine the height of the structure from the integrated intensities of the image and the reference image.

17. The system of claim 1, wherein the partial oblique illumination system is further configured to project two or more knife edge terminators on the specimen at the same azimuthal angle.

18. The system of claim 17, wherein the imaging system comprises a measurement time delay integration sensor configured to image the structure as it passes across a first of the two or more knife edge terminators and a reference time delay integration sensor configured to image the structure as it passes across a second of the two or more knife edge terminators.

19. The system of claim 17, wherein the imaging system comprises a measurement time delay integration sensor configured to form multiple exposures of the structure as it passes across each of the two or more knife edge terminators.

20. The system of claim 17, wherein the imaging system comprises a measurement time delay integration sensor having slits that match the two or more knife edge terminators.

21. The system of claim 1, further comprising a stage configured to support the specimen during imaging, wherein a vertical position of the stage is substantially constant during imaging.

22. The system of claim 1, wherein the structure comprises a bump, a ball, or a surface, and wherein the specimen comprises a wafer, a sawn wafer, a die, or an integrated circuit package.

23. The system of claim 1, wherein the structure comprises a three-dimensional defect.

24. A method for determining a dimension of a structure on a specimen, comprising:

scanning the specimen with partial oblique illumination to form an image of the structure;

integrating an intensity of the image; and

determining a height of the structure from the integrated intensity.

25. The method of claim 24, further comprising determining a height of a surface of the specimen from the integrated intensity.

26. The method of claim 24, wherein the integrated intensity is proportional or inversely proportional to the height of the structure.

27. The method of claim 24, wherein said scanning comprises imaging the structure as it passes across an obliquely-projected knife edge terminator on the specimen.

28. The method of claim 24, wherein an angle of the partial oblique illumination is substantially constant during said scanning.

29. The method of claim 24, further comprising scanning the specimen with additional partial oblique illumination at an azimuthal angle different than the partial oblique illumination to form an additional image of the structure and integrating an intensity of the additional image.

30. The method of claim 24, wherein said scanning comprises projecting two or more knife edge terminators on the specimen at the same azimuthal angle.

31. The method of claim 30, wherein said scanning further comprises forming multiple exposures of the structure as it passes across each of the two or more knife edge terminators.

32. The method of claim 24, wherein the image comprises a smeared image of the structure.

33. The method of claim 24, wherein the image is magnified in a direction in which said scanning is performed.

34. The method of claim 24, further comprising scanning the specimen with full oblique illumination to form a reference image of the structure, integrating an intensity of the reference image, and reducing albedo differences between the structure and additional structures on the specimen using the reference image.

35. The method of claim 24, further comprising scanning the specimen with full oblique illumination to form a reference image of the structure and integrating an intensity of the reference image, wherein said determining comprises determining the height of the structure from the integrated intensities of the image and the reference image.

36. The method of claim 24, further comprising maintaining a substantially constant vertical position of the specimen during said scanning.

37. The method of claim 24, wherein the structure comprises a bump, a ball, or a surface of the specimen, and wherein the specimen comprises a wafer, a sawn wafer, a die, or an integrated circuit package.

38. The method of claim 24, wherein the structure comprises a three-dimensional defect.

39. A system configured to determine a dimension of a structure on a specimen, comprising:

a first imaging system configured to form an image of the structure by scanning the specimen with partial oblique illumination;

a second imaging system configured to form a bright field image of the specimen by scanning the specimen with bright field illumination; and

a processor coupled to the first and second imaging systems, wherein the processor or the first imaging system is configured to integrate an intensity of the image, and wherein the processor is further configured to determine a height of the structure

from the integrated intensity, to detect defects on the specimen from the bright field image, and to determine a lateral dimension of the structure from the bright field image.

40. The system of claim 39, wherein the first and second imaging systems are further configured to scan the specimen in the same pass.

41. A method for determining a dimension of a structure on a specimen, comprising:

scanning the specimen with partial oblique illumination to form an image of the structure;

integrating an intensity of the image;

scanning the specimen with bright field illumination to form a bright field image of the specimen;

detecting defects on the specimen from the image or the bright field image; and

determining a height of the structure from the integrated intensity and a lateral dimension of the structure from the bright field image.

42. The method of claim 41, wherein said scanning the specimen with partial oblique illumination and said scanning the specimen with bright field illumination are performed substantially simultaneously.